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SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM EPA CONTRACT 68-W5-0019

START-02-F-00272

TRANSMITTAL MEMO

To:

Nick Magriples, OSC

Removal Action Branch, U.S. EPA Region II

From:

Dorothy M. Ponte and

Smita Sumbaly, Data Reviewers

Joseph Price, PM START Region II

Subject:

Cornell Dubilier Electronics Site

Data Validation Assessment

Date:

21 May 1996

The purpose of this memo is to transmit the following information:

• Data validation results for the following parameters:

TAL

8 samples

PCBs

4 investigative samples

3 lot blank samples

3 blind spike samples

• Matrices and Number of Samples

Air Filter + Solid Sorbent

10 samples

Air MCEF Filter

8 samples

• Sampling date: 23 April 1996

The final data assessment narrative and original analytical data package are attached.

cc:

START PM

Joseph Price

START FILE

TDD #:

02-96-04-0003

TDD #:

02-96-04-0010

PCS #:

1316

U.S. ENVIRONMENTAL PROTECTION AGENCY

MEMORANDUM					·	
DATE:	14 May 1996					
то:	Nick Magriples, OSC USEPA Region II					
	Dorothy M. START Dat	<u>Ponte</u> a Review Tea	am			
SUBJECT:	QA/QC Cor	npliance Rev	iew Summar	y .		
As requested quality of examined and comparareas were evaluated	ed to EPA st	andards for co	neasures for the ompliance. M	ne data package leasures for the	s noted have beer following genera	
Data Completeness Spectra Matching Quality Surrogate Spikes Matrix Spikes/Duplicates Calibration Blanks DFTPP and BFB Tuning Chromatography Holding Times Compound ID (HSL, TIC)						
Any statistical measure may be reviewed by o	es used to sup others.	port the follow	wing conclusion	ons are attached	so that the review	
Summary of R	<u>esults</u>					
		I <u>Volatiles</u>	II <u>B/N/A</u>	III <u>Pesticide</u>	IV Other	
Acceptable as Submitt Acceptable with Communication Unacceptable, Action Unacceptable	ments			<u>X</u>		
Data Reviewed by:	Doro	othy M. Ponte)	Date:		
Approved By:	Josep	h Soroka, Ph	.D.	Date	: 5/20/86	

Area Code/Phone No.: (908) 225-6116

NARRATIVE

CASE No. <u>1316</u>

SITE NAME:	Cornell Dubilier Electronics					
	South Plainfield, Middlesex County, New Jersey					
Laboratory Name:	Ecology and Environment, Inc. (EANDE)					
INTRODUCTION:						
The laboratory's port	tion of this Case consisted of 10 samples collected on 23 April 1996.					
The laboratory report	ted No problem(s) with the receipt of these samples.					
The laboratory repormedia samples.	ted No problems with the analyses of polychlorinated biphenyls in air					
have been assessed, b	nmented on the criteria specified under each fraction heading. All criteria out no discussion is given where the evaluator has determined that criteria ormed or require no comment. Details relevant to these comments are					
given on the followin	o forme					

Evaluation by Fraction

Pesticides/PCBs

Y Holding Times	Y Calibration Linearity
Y Instrument Performance	Y Blank
DDT RT/12 Minutes?	Y Surrogate Recovery
Y Retention Time Window	Y Spike Recovery
Y Analytical Sequence	Y Compound ID (HSL,TIC)
DDT/Endrin Degradation	Y Standards
Y RT Check for DBC	Y Chromatography

Comments:

1. Refer to Data Assessment Narrative

TOTAL REVIEW

DATA ASSESSMENT NARRATIVE

EANDE Project #: <u>9600.789</u> START RFP #s: <u>1316</u>

SAMPLES: 10 Filter + Solid Sorbent Samples

LAB: Ecology and Environment, Inc. Lab ID: EANDE

SITE: Cornell Dubilier Electronics

Analysis: Target Compound List (TCL) - Polychlorinated Biphenyls (PCBs)

DATA ASSESSMENT:

The S.O.W. Document # OLM01.0 (Rev. 12/90) for evaluating organic data have been applied.

All data are valid and acceptable except those analytes which have been qualified with a "J" (estimated), "U" (non-detects), "R" (unusable), or "JN" (presumptive evidence for the presence of the material at an estimated value). All action is detailed on the attached sheets.

Two facts should be noted by all data users. First, the "R" flag means that the associated data is unusable. In other words, due to significant QC problems, the analysis is invalid and provides no information on whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data, but any value potentially contains error.

Analytical data qualified as "JN" or "R" may not be used to demonstrate compliance with Toxicity Characteristic or Land Ban Regulations.

Reviewer's Signature:	Just Marian Ento	Date: <u>05 / 17 /19 96</u>
Verified By:		Date://19

A.2.2 Data Assessment (continued):

On 23 April 1996, the Region II Superfund Technical Assessment and Response Team (START) personnel collected four (4) investigative air tube (13-mm glass fiber filter plus Florisil solid sorbent) grab samples from the Cornell Dubilier Electronics site, South Plainfield, Middlesex County, New Jersey. Sample collection was performed at a calibrated flow rate of 0.1 liters per minute (L/min) for a period of 300 minutes providing a sample calculated air volume of 30 L. Of the four investigative samples, sample STN4-PCB was collected upwind (background). Within twenty-four hours of collection, investigative samples and QC samples (media blanks [3], blind spikes [3], analytical spikes [3], and desorption efficiency media blanks [15]) were shipped by Federal Express courier to Ecology and Environment, Inc. (EANDE), Analytical Services Center, Lancaster, New York. On 24 April 1996, samples were received at the laboratory. A representative of the laboratory verified that samples arrived intact, in a sealed shipping container, and with proper documentation. Samples were analyzed by the laboratory for Target Compound List (TCL) polychlorinated biphenyl (PCB) organic compounds in air (TO-10 PCB in Air) following procedures specified in NIOSH method number 5503 from the NIOSH Manual of Analytical Methods (NMAM), Fourth Edition, 15 August 1994.

Client identification (ID) and laboratory ID numbers are as follows:

Client ID No.	EANDE Sample ID No.	<u>Matrix</u>
STN1-PCB	43068.01	Air Filter + Florisil Sorbent
STN2-PCB	43069.01	Air Filter + Florisil Sorbent
STN3-PCB	43070.01	Air Filter + Florisil Sorbent
STN4-PCB	43071.01	Air Filter + Florisil Sorbent
LB-PCB-A	43065.01	Air Filter + Florisil Sorbent
LB-PCB-B	43066.01	Air Filter + Florisil Sorbent
LB-PCB-C	43067.01	Air Filter + Florisil Sorbent
Blind-PCB-A	43062.01	Air Filter + Florisil Sorbent
Blind-PCB-B	43063.01	Air Filter + Florisil Sorbent
Blind-PCB-C	43064.01	Air Filter + Florisil Sorbent

1. HOLDING TIMES:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following analytes in the samples shown were qualified because of holding time:

PCBs - Holding time requirements, as specified in NIOSH Method No. 5503 for polychlorobiphenyls (PCBs), were met by the laboratory. Reported sample stability for the solid sorbent Florisil tubes is 2 months. The sample stability is unknown for the 13-mm glass fiber filter cassette. However, air filter samples were analyzed within twenty-four hours after the validated time of sample receipt (VTSR) at the laboratory.

(2) BLANK CONTAMINATION:

Quality Assurance (QA) blanks, i.e., method, trip, field, rinse and water blanks are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field blanks measure cross-contamination of samples during field operations. If the concentration of the analyte is less than 5 times the blank contaminant level (10 times for common contaminants), the analytes are qualified as non-detects, "U". The following in the samples shown were qualified with "U" for these reasons:

A) Method Blank Contamination

<u>PCBs</u> - The following compounds were qualified as non-detected "U" in the associated samples due to method (lot) blank contamination:

Compound

Associated Samples

PCB compounds were not detected by the laboratory in the associated lot blank samples (Florisil Tube SKC Lot No. 377; Filter SKC Lot No. 9494). Therefore, data were not qualified based on method blank contamination.

B) Field or Rinse Blank Contamination

<u>PCBs</u> - The following compounds were qualified as non-detected "U" in the associated samples due to field blank contamination:

Compound

Associated Samples

Field blank samples were not collected for PCB analyses (2-10 field blanks are required by the method per set). Data were therefore not qualified due to field blank contamination. Additionally, the PCB investigative sample data is non-detected "U".

(5) CALIBRATION:

B. PERCENT RELATIVE STANDARD DEVIATION (%RSD) AND PERCENT DIFFERENCE (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be < 20% and %D must be < 20%. A value outside of these QC limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ" (if %D or RSD > 40%). If there is a gross deviation of %RSD and %D, the non-detects may be rejected ("R").

Initial Calibration

<u>PCB</u> - Positive values of the following compounds were qualified as estimated "J" in the associated samples because the Initial Calibration %RSD is between 20-90% when the mean RRF is > 0.05):

Compound

Associated Sample(s)

Initial calibration %RSD and mean RRF values did not exceed specified QC criteria for primary GC column RTX-35 and confirmation GC column RTX-5. Data were therefore not qualified due to Initial Calibration QC criteria.

Continuing Calibration

<u>PCB</u> - The following compounds were qualified as estimated "J" because the Continuing Calibration %D is between 20-90% when the 0.4~ug/mL RRF is > 0.05:

Compound

Associated Sample(s)

Continuing calibration %D and 0.4 ug/mL RRF values did not exceed specified QC criteria for primary GC column RTX-35 and confirmation GC column RTX-5. Data were therefore not qualified due to Continuing Calibration QC criteria.

(5) CALIBRATION (continued):

Continuing Calibration

<u>PCB</u> - The following compounds were qualified as estimated "J" because the Continuing Calibration %D for the Aroclor-1254 standard is between 15-90%:

Compound

Associated Sample(s)

Aroclor-1254

Due to professional judgement associated non-detected "U" sample data were not qualified as estimated "J" even though associated continuing calibration Aroclor-1254 standards (runs 17, 28, and 35) exceeded (16%, 17%, and 24%, respectively) QC criteria (≤ 15%). The laboratory indicated that the analytical instrument experienced an increase in response during the analyses due to a possible matrix effect. However, the change in instrument sensitivity did not effect the quantitation limits (≤ 0.10 ug/sample) of the associated non-detected "U" sample data (STN1-PCB, STN2-PCB, STN3-PCB, STN4-PCB, LB-PCB-A, -B, -C, and Blind-PCB-C).

(6) SURROGATES/SYSTEM MONITORING COMPOUNDS (SMC):

All samples are spiked with surrogate/SMC compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate/SMC concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below. The following analytes for the samples shown were qualified because of surrogate/SMC recovery:

<u>PCBs</u> - Due to professional judgement, the following PCB compounds were either qualified as estimated "J" or rejected "R" in the associated sample data because recoveries of Dibutylchlorendate (DBC) are outside QC limits (20-150%):

Surrogate Recovery (%R) Qualifier Associated Sample(s) Number of Compounds

DBC surrogate recoveries are within QC limits (20-150%), therefore sample data were not qualified based on surrogate recovery QC criteria.

Note: The laboratory indicated in the case narrative that pesticide spiking solution was accidentally added to all samples instead of PCB surrogate solution. Additional qualification of data was not required because the pesticide compounds do not interfere with the PCB pattern.

(9) MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The laboratory must perform three quality control (QC) blind spike analyses and three analytical spike analyses in order to ensure the QC of the calibration and desorption efficiency (DE) graphs generated during the initial calibration sequence. The percent recovery (%R) must fall within laboratory-specified QC criteria.

<u>PCBs</u> - The following sample data were either qualified as estimated "J" or rejected "R" due to exceeding duplicate spike recovery QC criteria:

Original Sample	Front Spike %R	Back Spike %R	Qualifier	Compound(s)
43059.01	93.0%	93.5%	1	
43060.01	92.0%	92.5%	1	
43061.01	94.5%	87.0%	1	

The PCB-1242 percent spike recoveries (%R) of the front and back sections of the air tubes are within EANDE target QC limits (80-120%). PCB sample data were not qualified based on duplicate spike recoveries.

(10) Compound Identification

<u>PCBs</u> - The following detected compounds were qualified due to a percent difference (%D) between the primary and confirmation columns > 25%:

Compound %D Qualifier Sample(s)

Sample data is non-detected "U", therefore data were not qualified based on this QC criteria.

- PCBs The laboratory indicated in the Case Narrative that the accuracy of the "analyses depends upon the representative nature of the sample and the reliability of collection procedures as well as the accuracy of the laboratory analysis of the sample as submitted". START personnel indicated that no problems were encountered during collection of investigative samples. START personnel collected 30 L per investigative sample at a flow rate of 0.1 L/min. This is within the method-specified collection of between 1 L to 50 L of air at a flow rate of 0.05 to 0.2 L/min.
- <u>PCBs</u> NIOSH Method No. 5503 provides gas chromatographic conditions for the detection of ug/mL levels of certain PCB compounds. The sensitivity of the method usually depends on the level of interferences rather than on instrumental limitations.

OTHER ANALYTES WORK TABLE

Project: Cornell Dubilier Electronics

START PM: PM NAME (Unless Otherwise Indicated)

Sampling Date: 23 April 1996

SAMPLE #/CONCENTRATION (µg/m³)

1 0		SIETH EE W. CONCERNITION (FE/III)				
Polychlorinated Biphenyls	Method Detection Limit 1	Air 43068.01 STN1-PCB	Air 43069.01 STN2-PCB	Air 43070.01 STN3-PCB	Air 43071.01 STN4-PCB	
Dilution Factor		1	1	1	1	
Aroclor-1016	3.3	Ŭ	U	י	U	
Aroclor-1221	3.3	U	U	U	U	
Aroclor-1232	3.3	U	U	U	U	
Aroclor-1242	3.3	U	U	U	Ü	
Aroclor-1248	3.3	U	U	U	U	
Aroclor-1254	3.3	U	U	U	U	
Arocior-1260	3.3	U	U	U	U	

Polychlorinated Biphenyls Dilution Factor	Method Detection Limit	Air 43065.01 LB-PCB-A 1	Air 43066.01 LB-PCB-B	Air 43067.01 LB-PCB-C 1	Air 43062.01 Blind-PCB-A 1	Air 43063.01 Blind-PCB-B
Aroclor-1016	0.1 μg/tube	Ü	U	U	U	U
Aroclor-1221	0.1 μg/tube	U	U	U	U	U
Aroclor-1232	0.1 μg/tube	U	U	U	U	U
Aroclor-1242	0.1 μg/tube	U	U	U	U	U
Aroclor-1248	0.1 μg/tube	U	U	U	U	U
Aroclor-1254	0.1 μg/tube	U	U	U	T U	T U
Aroclor-1260	0.1 μg/tube	U	Ü	U	U U	U

Polychlorinated Biphenyls	Method Detection Limit	Air 43064.01 Blind-PCB-C			
Percent Solids		1			
Dilution Factor			,		
Aroclor-1016	0.1 μg/tube	U			
Aroclor-1221	0.1 μg/tube	U			
Aroclor-1232	0.1 μg/tube	U			 _
Aroclor-1242	0.1 μg/tube	U			· · · · · · · · · · · · · · · · · · ·
Aroclor-1248	0.1 μg/tube	U			
Aroclor-1254	0.1 μg/tube	U		- 	
Aroclor-1260	0.1 μg/tube	U			

¹ 0.1 μ g/tube x 1000 L/m³ ÷ 30 L (air volume sampled) = 3.3 μ g/m³

at an estimated value

U - non-detected compound

B - detected in the corresponding method blank

J - estimated value

J - between the instrument detection limit (IDL) and the method detection limit (MDL)

JN - presumptive evidence of a compound

R - rejected compound



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SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM EPA CONTRACT 68-W5-0019

START-02-F-00272

TRANSMITTAL MEMO

To:

Nick Magriples, OSC

Removal Action Branch, U.S. EPA Region II

From:

Dorothy M. Ponte and

Smita Sumbaly, Data Reviewers

Joseph Price, PM START Region II

Subject:

Cornell Dubilier Electronics Site

Data Validation Assessment

Date:

21 May 1996

The purpose of this memo is to transmit the following information:

• Data validation results for the following parameters:

TAL

8 samples

PCBs

4 investigative samples

3 lot blank samples

3 blind spike samples

• Matrices and Number of Samples

Air Filter + Solid Sorbent

10 samples

Air MCEF Filter

8 samples

• Sampling date: 23 April 1996

The final data assessment narrative and original analytical data package are attached.

cc:

START PM

Joseph Price

START FILE

TDD #:

02-96-04-0003

TDD #:

02-96-04-0010

PCS #:

1316

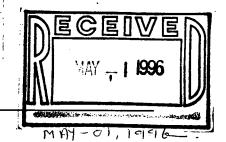


ecology and environment, inc.

International Specialists in the Environment

ANALYTICAL SERVICES CENTER

4493 Walden Avenue Lancaster, New York 14086 Tel. (716) 685-8080, Fax: (716) 685-0852



April 30, 1996

Ms. Smita Sumbaly Roy F. Weston 1090 King Georges Post Road Suite 201 Edison, New Jersey 08837

RE: 9600.789

Dear Ms. Sumbaly:

Attached is the laboratory report of the analyses conducted on samples received at the Analytical Services Center on April 24, 1996. Analyses were performed according to procedures set forth in NIOSH 5503 and 7300.

The chain of custody form provided herein is integral to this report and must be included with the analytical results forms upon transferral to another data user.

The accuracy of all analyses depends upon the representative nature of the sample and the reliability of collection procedures as well as the accuracy of the laboratory analysis of the sample as submitted. Ecology and Environment, Inc.'s activity and representations with respect to these samples are limited solely to the laboratory analysis of the samples presented to us.

All samples on which this report is based will be retained by E & E for a period of 30 days from the date of this report, unless otherwise instructed by the client. If additional storage of samples is requested by the client, a storage fee of \$1.00 per sample container per month will be charged for each sample, with such charges accruing until destruction of the samples is authorized by the client.

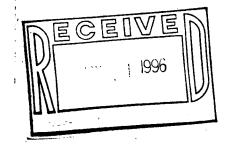
CASE NARRATIVE

recycled paper

Desorption efficiency raw data is located on pages 8-13 of this data package.

4

Roy F. Weston 9600 789 Page 2 of 3



METALS

Due to software limitations, E & E identification codes have been used throughout this report. Full client ID's can be found in the comment section on form 1.

The following calculation was used for the determination of arsenic and lead in air samples:

The spike recoveries for samples MCEF-SA and MCEF-SB were calculated using the associated lot blanks as the original sample results (MCEF-LA and MCEF-LB respectively).

Lead was detected in the preparation blank at 0.256 ug/filter, just above the IDL of 0.21 ug/filter. Lead was also detected in all the samples. It is not possible to redigest and reanalyze filters.

PCB in Air

The following calculations were used for the determination of PCB's in air samples:

2. liters x (1 cubic meter / 1000 liters) = 1 cubic meter

Accidentally, pesticide spiking solution was added to all samples instead of PCB surrogate solution. The pesticide compounds do not interfere with the PCB pattern.

The extraction codes for the PCB in air analyses are as follows: 3200 = front end of tube, 3210 = back end of tube, 3220 = front end of spiked tube, 3290 = back end of spiked tube.

The continuing AROCLOR-1254 standards (runs 17, 28, & 35) exceeded the 15% difference criteria. Percent differences were 16%, 17%, and 24% respectively.

Roy F. Weston 9600.789 Page 3 of 3



I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Gary Hahn - Manager

Analytical Services Center

April 30, 1996

Total number of pages in this data package is: 358

U.S. ENVIRONMENTAL PROTECTION AGENCY

MEMORANDUM DATE: 14 May 1996 TO: Nick Magriples, OSC **USEPA Region II Dorothy M. Ponte** FROM: **START Data Review Team QA/QC** Compliance Review Summary **SUBJECT:** As requested quality control and performance measures for the data packages noted have been examined and compared to EPA standards for compliance. Measures for the following general areas were evaluated as applicable: Data Completeness **Blanks** Spectra Matching Quality **DFTPP** and BFB Tuning Surrogate Spikes Chromatography Matrix Spikes/Duplicates **Holding Times** Calibration Compound ID (HSL, TIC) Any statistical measures used to support the following conclusions are attached so that the review may be reviewed by others. Summary of Results I II Ш **Volatiles** B/N/A Pesticide Other Acceptable as Submitted Acceptable with Comments Unacceptable, Action Pending Unacceptable Data Reviewed by: Dorothy M. Ponte Date: Approved By: Joseph Soroka, Ph.I. Date: Area Code/Phone No.: (908) 225-6116

NARRATIVE

CASE No. <u>1316</u>

SITE NAME:	Cornell Dubilier Electronics						
•	South Plainfield, Middlesex County, New Jersey						
Laboratory Name:	Ecology and Environment, Inc. (EANDE)						
INTRODUCTION:							
The laboratory's port	ion of this Case consisted of 10 samples collected on 23 April 1996.						
The laboratory report	ed No problem(s) with the receipt of these samples.						
The laboratory report media samples.	ed No problems with the analyses of polychlorinated biphenyls in air						
have been assessed, b	nmented on the criteria specified under each fraction heading. All criteria ut no discussion is given where the evaluator has determined that criteria ormed or require no comment. Details relevant to these comments are g forms.						

Evaluation by Fraction

Pesticides/PCBs

Y Holding Times	Y Calibration Linearity
Y Instrument Performance	Y Blank
DDT RT/12 Minutes?	Y Surrogate Recovery
Y Retention Time Window	Y Spike Recovery
Y Analytical Sequence	Y Compound ID (HSL,TIC)
DDT/Endrin Degradation	Y Standards
Y RT Check for DBC	Y Chromatography

Comments:

1. Refer to Data Assessment Narrative

TOTAL REVIEW

DATA ASSESSMENT NARRATIVE

EANDE Project #: 9600.789 START RFP #s: 1316

SAMPLES: 10 Filter + Solid Sorbent Samples

LAB: Ecology and Environment, Inc. Lab ID: EANDE

SITE: Cornell Dubilier Electronics

Analysis: Target Compound List (TCL) - Polychlorinated Biphenyls (PCBs)

DATA ASSESSMENT:

The S.O.W. Document # OLM01.0 (Rev. 12/90) for evaluating organic data have been applied.

All data are valid and acceptable except those analytes which have been qualified with a "J" (estimated), "U" (non-detects), "R" (unusable), or "JN" (presumptive evidence for the presence of the material at an estimated value). All action is detailed on the attached sheets.

Two facts should be noted by all data users. First, the "R" flag means that the associated data is unusable. In other words, due to significant QC problems, the analysis is invalid and provides no information on whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data, but any value potentially contains error.

Analytical data qualified as "JN" or "R" may not be used to demonstrate compliance with Toxicity Characteristic or Land Ban Regulations.

Reviewer's Signature:	Marian Ports	Date: 05 / 17 /19 96
oignature.	Survey (Blan 1874)	Date: <u>05</u> /_1/19 <u>-90</u>
Verified By:		Date://19

A.2.2 Data Assessment (continued):

On 23 April 1996, the Region II Superfund Technical Assessment and Response Team (START) personnel collected four (4) investigative air tube (13-mm glass fiber filter plus Florisil solid sorbent) grab samples from the Cornell Dubilier Electronics site, South Plainfield, Middlesex County, New Jersey. Sample collection was performed at a calibrated flow rate of 0.1 liters per minute (L/min) for a period of 300 minutes providing a sample calculated air volume of 30 L. Of the four investigative samples, sample STN4-PCB was collected upwind (background). Within twenty-four hours of collection, investigative samples and QC samples (media blanks [3], blind spikes [3], analytical spikes [3], and desorption efficiency media blanks [15]) were shipped by Federal Express courier to Ecology and Environment, Inc. (EANDE), Analytical Services Center, Lancaster, New York. On 24 April 1996, samples were received at the laboratory. A representative of the laboratory verified that samples arrived intact, in a sealed shipping container, and with proper documentation. Samples were analyzed by the laboratory for Target Compound List (TCL) polychlorinated biphenyl (PCB) organic compounds in air (TO-10 PCB in Air) following procedures specified in NIOSH method number 5503 from the NIOSH Manual of Analytical Methods (NMAM), Fourth Edition, 15 August 1994.

Client identification (ID) and laboratory ID numbers are as follows:

Client ID No.	EANDE Sample ID No.	<u>Matrix</u>
STN1-PCB	43068.01	Air Filter + Florisil Sorbent
STN2-PCB	43069.01	Air Filter + Florisil Sorbent
STN3-PCB	43070.01	Air Filter + Florisil Sorbent
STN4-PCB	43071.01	Air Filter + Florisil Sorbent
LB-PCB-A	43065.01	Air Filter + Florisil Sorbent
LB-PCB-B	43066.01	Air Filter + Florisil Sorbent
LB-PCB-C	43067.01	Air Filter + Florisil Sorbent
Blind-PCB-A	43062.01	Air Filter + Florisil Sorbent
Blind-PCB-B	43063.01	Air Filter + Florisil Sorbent
Blind-PCB-C	43064.01	Air Filter + Florisil Sorbent

1. HOLDING TIMES:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following analytes in the samples shown were qualified because of holding time:

PCBs - Holding time requirements, as specified in NIOSH Method No. 5503 for polychlorobiphenyls (PCBs), were met by the laboratory. Reported sample stability for the solid sorbent Florisil tubes is 2 months. The sample stability is unknown for the 13-mm glass fiber filter cassette. However, air filter samples were analyzed within twenty-four hours after the validated time of sample receipt (VTSR) at the laboratory.

(2) BLANK CONTAMINATION:

Quality Assurance (QA) blanks, i.e., method, trip, field, rinse and water blanks are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field blanks measure cross-contamination of samples during field operations. If the concentration of the analyte is less than 5 times the blank contaminant level (10 times for common contaminants), the analytes are qualified as non-detects, "U". The following in the samples shown were qualified with "U" for these reasons:

A) Method Blank Contamination

<u>PCBs</u> - The following compounds were qualified as non-detected "U" in the associated samples due to method (lot) blank contamination:

Compound

Associated Samples

PCB compounds were not detected by the laboratory in the associated lot blank samples (Florisil Tube SKC Lot No. 377; Filter SKC Lot No. 9494). Therefore, data were not qualified based on method blank contamination.

B) Field or Rinse Blank Contamination

<u>PCBs</u> - The following compounds were qualified as non-detected "U" in the associated samples due to field blank contamination:

Compound

Associated Samples

Field blank samples were not collected for PCB analyses (2-10 field blanks are required by the method per set). Data were therefore not qualified due to field blank contamination. Additionally, the PCB investigative sample data is non-detected "U".

(5) CALIBRATION:

B. PERCENT RELATIVE STANDARD DEVIATION (%RSD) AND PERCENT DIFFERENCE (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be < 20% and %D must be < 20%. A value outside of these QC limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ" (if %D or RSD > 40%). If there is a gross deviation of %RSD and %D, the non-detects may be rejected ("R").

Initial Calibration

<u>PCB</u> - Positive values of the following compounds were qualified as estimated "J" in the associated samples because the Initial Calibration %RSD is between 20-90% when the mean RRF is > 0.05):

Compound

Associated Sample(s)

Initial calibration %RSD and mean RRF values did not exceed specified QC criteria for primary GC column RTX-35 and confirmation GC column RTX-5. Data were therefore not qualified due to Initial Calibration QC criteria.

Continuing Calibration

<u>PCB</u> - The following compounds were qualified as estimated "J" because the Continuing Calibration %D is between 20-90% when the 0.4 ug/mL RRF is > 0.05:

Compound

Associated Sample(s)

Continuing calibration %D and 0.4 ug/mL RRF values did not exceed specified QC criteria for primary GC column RTX-35 and confirmation GC column RTX-5. Data were therefore not qualified due to Continuing Calibration QC criteria.

(5) CALIBRATION (continued):

Continuing Calibration

<u>PCB</u> - The following compounds were qualified as estimated "J" because the Continuing Calibration %D for the Aroclor-1254 standard is between 15-90%:

Compound

Associated Sample(s)

1

Aroclor-1254

Due to professional judgement associated non-detected "U" sample data were not qualified as estimated "J" even though associated continuing calibration Aroclor-1254 standards (runs 17, 28, and 35) exceeded (16%, 17%, and 24%, respectively) QC criteria (≤ 15%). The laboratory indicated that the analytical instrument experienced an increase in response during the analyses due to a possible matrix effect. However, the change in instrument sensitivity did not effect the quantitation limits (≤ 0.10 ug/sample) of the associated non-detected "U" sample data (STN1-PCB, STN2-PCB, STN3-PCB, STN4-PCB, LB-PCB-A, -B, -C, and Blind-PCB-C).

(6) SURROGATES/SYSTEM MONITORING COMPOUNDS (SMC):

All samples are spiked with surrogate/SMC compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate/SMC concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below. The following analytes for the samples shown were qualified because of surrogate/SMC recovery:

<u>PCBs</u> - Due to professional judgement, the following PCB compounds were either qualified as estimated "J" or rejected "R" in the associated sample data because recoveries of Dibutylchlorendate (DBC) are outside QC limits (20-150%):

Surrogate Recovery (%R) Qualifier Associated Sample(s) Number of Compounds

DBC surrogate recoveries are within QC limits (20-150%), therefore sample data were not qualified based on surrogate recovery QC criteria.

Note: The laboratory indicated in the case narrative that pesticide spiking solution was accidentally added to all samples instead of PCB surrogate solution. Additional qualification of data was not required because the pesticide compounds do not interfere with the PCB pattern.

(9) MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The laboratory must perform three quality control (QC) blind spike analyses and three analytical spike analyses in order to ensure the QC of the calibration and desorption efficiency (DE) graphs generated during the initial calibration sequence. The percent recovery (%R) must fall within laboratory-specified QC criteria.

<u>PCBs</u> - The following sample data were either qualified as estimated "J" or rejected "R" due to exceeding duplicate spike recovery QC criteria:

Original Sample	Front Spike %R	Back Spike %R	<u>Oualifier</u>	Compound(s)
43059.01	93.0%	93.5%	1	
43060.01	92.0%	92.5%	1	
43061.01	94.5%	87.0%	1	

The PCB-1242 percent spike recoveries (%R) of the front and back sections of the air tubes are within EANDE target QC limits (80-120%). PCB sample data were not qualified based on duplicate spike recoveries.

(10) Compound Identification

<u>PCBs</u> - The following detected compounds were qualified due to a percent difference (%D) between the primary and confirmation columns > 25%:

Compound

<u>%D</u>

Oualifier

Sample(s)

Sample data is non-detected "U", therefore data were not qualified based on this QC criteria.

PCBs - The laboratory indicated in the Case Narrative that the accuracy of the "analyses depends upon the representative nature of the sample and the reliability of collection procedures as well as the accuracy of the laboratory analysis of the sample as submitted". START personnel indicated that no problems were encountered during collection of investigative samples. START personnel collected 30 L per investigative sample at a flow rate of 0.1 L/min. This is within the method-specified collection of between 1 L to 50 L of air at a flow rate of 0.05 to 0.2 L/min.

<u>PCBs</u> - NIOSH Method No. 5503 provides gas chromatographic conditions for the detection of ug/mL levels of certain PCB compounds. The sensitivity of the method usually depends on the level of interferences rather than on instrumental limitations.

OTHER ANALYTES WORK TABLE

Project: Cornell Dubilier Electronics

START PM: PM NAME

(Unless Otherwise Indicated)

Sampling Date: 23 April 1996

SAMPLE #/CONCENTRATION (µg/m³)

Polychlorinated Biphenyls	Method Detection Limit 1	Air 43068.01 STN1-PCB	Air 43069.01 STN2-PCB	Air 43070.01 STN3-PCB	Air 43071.01 STN4-PCB	
Dilution Factor		1	1	1 .	1	
Aroclor-1016	3.3	U	U	U	U	
Aroclor-1221	3.3	U	U	U	U	
Aroclor-1232	3.3	U	U	U	U	
Aroclor-1242	3.3	U	U	U	U.	
Aroclor-1248	3.3	U	U	U	U	
Aroclor-1254	3.3	U	U	U	U	
Aroclor-1260	3.3	U	U	U	U	

Polychlorinated Biphenyls	Method Detection	Air 43065.01	Air 43066.01	Air 43067.01	Air 43062.01	Air 43063.01
	Limit	LB-PCB-A	LB-PCB-B	LB-PCB-C	Blind-PCB-A	Blind-PCB-B
Dilution Factor	, and the second	1	1	1 (1	1
Aroclor-1016	0.1 μg/tube	U	U	U	U	U
Aroclor-1221	0.1 μg/tube	U	U	U	U	U
Aroclor-1232	0.1 μg/tube	U	U	U	U	U
Aroclor-1242	0.1 μg/tube	U	U	U	U	Ų
Aroclor-1248	0.1 μg/tube	U	U	U	U	U
Aroclor-1254	0.1 μg/tube	U	U	U	U	U
Aroclor-1260	0.1 μg/tube	U	U	U	U	U

Polychlorinated Biphenyls	Method Detection Limit	Air 43064.01 Blind-PCB-C				,			
Percent Solids		1							
Dilution Factor	,								1
Aroclor-1016	0.1 μg/tube	U							
Aroclor-1221	0.1 μg/tube	U	1	£					
Aroclor-1232	0.1 μg/tube	U				 			
Aroclor-1242	0.1 μg/tube	U				 		· · · · · ·	
Aroclor-1248	0.1 μg/tube	U	1		,				
Aroclor-1254	0.1 μg/tube	U .				 	i		
Aroclor-1260	0.1 μg/tube	U	T		, .				,

¹ 0.1 μ g/tube x 1000 L/m³ ÷ 30 L (air volume sampled) = 3.3 μ g/m³

U - non-detected compound

B - detected in the corresponding method blank

J - estimated value

J - between the instrument detection limit (IDL) and the method detection limit (MDL)

JN - presumptive evidence of a compound at an estimated value

R - rejected compound

JOB NUMBER : 9600.789

Ecology and Environment, Inc. SAMPLE TRACKING REPORT

	CLIENT	*)	
- SAMPLE	SAMPLE		DATE	DATE	DATE
NUMBER	ID	•	SAMPLED	EXTRACTED	ANALYZED
TO-10 PCB I	N AIRAIR	*		•	•
43062.01	BLIND-PCB-A		04/23/96	04/25/96	04/26/96
43063.01	BLIND-PCB-B	•	04/23/96	04/25/96	04/26/96
43064.01	BLIND-PCB-C		04/23/96	04/25/96	04/26/96
43065.01	LB-PCB-A		04/23/96	04/25/96	04/26/96
43066.01	LB-PCB-B		04/23/96	04/25/96	04/26/96
43067.01.	LB-PCB-C		04/23/96	04/25/96	04/26/96
43068.01	STN1-PCB		04/23/96	04/25/96	04/26/96
43069.01	STN2-PCB		04/23/96	04/25/96	04/26/96
43070.01	STN3-PCB	•.	04/23/96	04/25/96	04/26/96
43071.01	STN4-PCB		04/23/96	04/25/96	04/26/96

TEST CODE :APCB 1

JOB NUMBER: 9600.789

ELAP ID : 10486

Ecology and Environment, Inc. Analytical Services Center

CLIENT

: ROY F. WESTON

TEST NAME : TO-10 PCB IN AIR

SAMPLE ID LAB : EE-96-43068

UNITS : UG/M3

MATRIX: AIR

SAMPLE ID CLIENT: STN1-PCB

PARAMETER	RESULTS	ġ	QNT.	LIMIT
	-,	-		
PCB-1242	ND			3.3
PCB-1254	ND		-	3.3
PCB-1221	ND			3.3
PCB-1232	ND			3.3
PCB-1248	ND			3.3
PCB-1260	ND			3.3
PCB-1016	ND		-	3.3

QUALIFIERS: C = COMMENT ND = NOT DETECTED

J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK

TEST CODE : APCB 1

JOB NUMBER :9600.789

ELAP ID : 10486

Ecology and Environment, Inc. Analytical Services Center

CLIENT : ROY F. WESTON TEST NAME : TO-10 PCB IN AIR

SAMPLE ID LAB : EE-96-43069

UNITS : UG/M3 MATRIX: AIR

SAMPLE ID CLIENT: STN2-PCB

 	~				
PARAMETER		ı	RESULTS	Q	QNT. LIMIT
PCB-1242			ND		3.3
PCB-1254	-		ND .		3.3
PCB-1221			ND		3.3
PCB-1232			ND		3.3
PCB-1248			ND		3.3
PCB-1260			ND		3.3
PCB-1016			ND .		3.3

QUALIFIERS: C = COMMENT

J = ESTIMATED VALUE

ND = NOT DETECTED B = ALSO PRESENT IN BLANK

TEST CODE : APCB 1

JOB NUMBER :9600.789

ELAP ID : 10486

Ecology and Environment, Inc. Analytical Services Center

CLIENT

: ROY F. WESTON

TEST NAME : TO-10 PCB IN AIR SAMPLE ID LAB : EE-96-43070

SAMPLE ID CLIENT: STN3-PCB

UNITS : UG/M3 MATRIX: AIR

PARAMETER	RESULTS	Q	QNT. LIMIT
		-	
PCB-1242	ND		3.3
PCB-1254	ND		3.3
PCB-1221	ND		3.3
PCB-1232	ND		3.3
PCB-1248	ND		3.3
PCB-1260	ND		3.3
PCB-1016	ND	•	3.3
•			

QUALIFIERS: C = COMMENT ND = NOT DETECTED

J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK

TEST CODE : APCB 1

JOB NUMBER :9600.789

ELAP ID : 10486

Ecology and Environment, Inc. Analytical Services Center

CLIENT : ROY F. WESTON TEST NAME : TO-10 PCB IN AIR

SAMPLE ID LAB : EE-96-43071 SAMPLE ID CLIENT: STN4-PCB

UNITS : UG/M3

MATRIX: AIR

PARAMETER		RESULTS	Q	QNT.	LIMIT
			_		
PCB-1242	4	ND			3.3
PCB-1254		ND		_	3.3
PCB-1221		ND			3.3
PCB-1232		ND			3.3
PCB-1248		ND			3.3
PCB-1260		ND		*	3.3
PCB-1016		ND .			3.3

QUALIFIERS: C = COMMENT ND = NOT DETECTED

J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK

JOB NUMBER :9600.789

ELAP ID : 10486

Ecology and Environment, Inc. Analytical Services Center

CLIENT : ROY F. WESTON

TEST NAME : TO-10 PCB IN AIR UNITS : UG/TUBE SAMPLE ID LAB : EE-96-43065 MATRIX: AIR

SAMPLE ID CLIENT: LB-PCB-A

	c-rent. LD tCD n			
	PARAMETER	RESULTS	Q	QNT. LIMIT
			_	
	PCB-1242	ND		0.10
	PCB-1254	ND		0.10
	PCB-1221	ND		0.10
	PCB-1232	ND		0.10
	PCB-1248	ND		0.10
٠.	PCB-1260	ND		0.10
	PCB-1016	ND		0.10

JOB NUMBER :9600.789

ELAP ID : 10486

Ecology and Environment, Inc. Analytical Services Center

CLIENT : ROY F. WESTON TEST NAME : TO-10 PCB IN AIR

UNITS : UG/TUBE SAMPLE ID LAB : EE-96-43066 MATRIX: AIR

SAMPLE ID CLIENT: LB-PCB-B

PARAMETER	. ,	4	r	RESULTS	Q	QNT.	LIMIT
	, , , , , , , , , , , , , , , , , , ,						
PCB-1242			٠.	ND			0.10
PCB-1254		, .	. ,	ND			0.10
PCB-1221				ND	-		0.10
PCB-1232				ND			0.10
PCB-1248				ND .			0.10
PCB-1260				ND			0.10
PCB-1016	٠			ND			0.10

JOB NUMBER :9600.789

ELAP ID : 10486

. Ecology and Environment, Inc. Analytical Services Center

CLIENT ': ROY F. WESTON TEST NAME : TO-10 PCB IN AIR

SAMPLE ID LAB : EE-96-43067

UNITS : UG/TUBE

MATRIX: AIR

SAMPLE ID CLIENT: LB-PCB-C

RESULTS	Q	QNT. LIMIT
	-	
ND		0.10
	ND ND ND ND ND ND ND ND	ND

QUALIFIERS: C = COMMENT ND = NOT DETECTED

J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK

TEST CODE :APCB 1 JOB NUMBER :9600.789

ELAP ID : 10486

Ecology and Environment, Inc. Analytical Services Center

CLIENT : ROY F. WESTON TEST NAME : TO-10 PCB IN AIR SAMPLE ID LAB : EE-96-43062

UNITS : UG/TUBE MATRIX: AIR

SAMPLE ID CLIENT: BLIND-PCB-A

LEE ID CEIENT: BEIND ICE A			
PARAMETER	RESULTS	Q	QNT. LIMIT
		_	<i></i>
PCB-1242	ND		0.10
PCB-1254	ND		0.10
PCB-1221	ND		0.10
PCB-1232	ND		0.10
PCB-1248	ND		0.10
PCB-1260	ND		0.10
PCB-1016	ND		0.10

JOB NUMBER :9600.789

ELAP ID : 10486

Ecology and Environment, Inc. Analytical Services Center

CLIENT : ROY F. WESTON TEST NAME : TO-10 PCB IN AIR

SAMPLE ID LAB : EE-96-43063

UNITS : UG/TUBE

MATRIX: AIR

SAMPLE	ID	CLIENT:	BLIND-PCB-B
ΡZ	ABAN	AETER	

PARAMETER	RESULTS	Q	QNT. LIMIT
		-	
PCB-1242	ND		0.10
PCB-1254	ND		0.10
PCB-1221	ND		0.10
PCB-1232	ND		0.10
PCB-1248	ND .		.0.10
PCB-1260	ND		0.10
PCB-1016	ND		0.10

QUALIFIERS: C = COMMENT ND = NOT DETECTED

J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK

JOB NUMBER :9600.789

ELAP ID : 10486

Ecology and Environment, Inc. Analytical Services Center

CLIENT : ROY F. WESTON TEST NAME : TO-10 PCB IN AIR SAMPLE ID LAB : EE-96-43064

UNITS : UG/TUBE

MATRIX: AIR

SAMPLE ID CLIENT: BLIND-PCB-C

			•
PARAMETER	RESULTS	Q	QNT. LIMIT
		`-	
PCB-1242	ND.		0.10
PCB-1254	ND		0.10
PCB-1221	ND		0.10
PCB-1232	ND		0.10
PCB-1248	ND		0.10
PCB-1260	ND		0.10
PCB-1016	ND		0.10

CHAIN OF CUSTODY RECORD

Environmental Services Division
EDISON, NEW JERSEY 08817



Name of	Unit and	Address Roy F. Wes 1090 Kind I Svite Zoi	TON-START Scorses POST RA EDISON NJ O	8837 (90	RFF (8) 225	井 1316 - 6116		
Sample Number	Number of Containers	Description of Sampl	+ ALL SAMPICS bo			1.05H 5503 e + A 13mm GLASS f.	ber F.LT	ત્ર
A,B,C	3 _{sets}	3 LOT BLANKS . SKC LOT	NIOSH 5503 377 FLORISIL TO	VOLUME = Obes FILTER	O LOT = SKC	9494		
3LND 9CB	3 Sets	3 BLIND SPIKES .	NIOSH 5503	V olume	= O			•
ANIOL-PCB	3 _{scrs}				ume = 0			
DE-PCB	15,5	15 Desorption			5503	Volume = 0		
STAL ACB		1	es vol:3				-	
STN 2-PCB	· Iser	STRTIUN 2 P	CB Vol = 3	. O.				
STN 3 PCB	Ser	STATION 3 P	c15 Jol = 3 XB Vol = 3	ol				
	261	21010.						
Person A	Assuming R	psponsibility for Sample:					Time 5 30 PM	7/23/96
Sample Number	Relina	quished By:	Receiv	ed By: Tin	Date	Reason for Change	of Custody	
Somple Number	Relina	quished By:	Receive	ed By: Tim	Date	Reason for Change	of Custady	
	Fid	E _*	Zith ILlow	we 09:	10 4-24 9 4	Analysis		
Sample Number	Reline	quished By:	Receive	ed By: Tin	Date	Reason for Change	of Custody	
				,		,		
Sample Number	Reling	ruished By:	Receiv	ed By: . Tin	Date	Reason for Change	of Custody	
						<u> </u>		``



Roy F. Weston, Inc. Federal Programs Division Suite 201 1090 King Georges Post Road Edison, New Jersey 08837-3703 908-225-6116 • Fax 908-225-7037

SUPERFUND TECHNICAL ASSESSMENT AND RESPONSE TEAM EPA CONTRACT 68-W5-0019

START-02-F-00272

TRANSMITTAL MEMO

To:

Nick Magriples, OSC

Removal Action Branch, U.S. EPA Region II

From:

Dorothy M. Ponte and

Smita Sumbaly, Data Reviewers

Joseph Price, PM START Region II

Subject:

Cornell Dubilier Electronics Site

Data Validation Assessment

Date:

21 May 1996

The purpose of this memo is to transmit the following information:

Data validation results for the following parameters:

TAL

8 samples

PCBs

4 investigative samples

3 lot blank samples

3 blind spike samples

Matrices and Number of Samples

Air Filter + Solid Sorbent

Air MCEF Filter

10 samples

8 samples

Sampling date: 23 April 1996

The final data assessment narrative and original analytical data package are attached.

cc:

START PM

Joseph Price

START FILE

TDD #:

02-96-04-0003

TDD #:

02-96-04-0010

PCS #:

1316

U.S. ENVIRONMENTAL PROTECTION AGENCY

MEMORANDUM

14 May 1996

DATE:

					*
TO:	Nick Magr USEPA Re	iples, OSC gion <u>II</u>			
FROM:	Dorothy M START Da	<u>. Ponte</u> ta Review Tea	am		
SUBJECT:	QA/QC Co	mpliance Rev	iew Summar	y	
examined and c	nality control and pompared to EPA so the transfer of the tran	tandards for co			
S S N	Pata Completeness pectra Matching (urrogate Spikes Matrix Spikes/Duplealibration	Quality	Chromatog Holding Ti	- ·) :
may be reviewe	neasures used to sud by others.	pport the follow	wing conclusio	ons are attached	so that the review
		I <u>Volatiles</u>	II <u>B/N/A</u>	III <u>Pesticide</u>	IV <u>Other</u>
Acceptable as S Acceptable with Unacceptable, A Unacceptable	Comments			X	
Data Reviewed		rothy M. Ponte	97	Date:	1 10
Approved By: Area Code/Phon		ph Soroka, Ph 8) 225-6116	<u>,D, ´</u>	Date	: <u> </u>
	<u> </u>	0) 223-0110			

NARRATIVE

CASE No. <u>1316</u>

SITE NAME:	Cornell Dubilier Electronics
	South Plainfield, Middlesex County, New Jersey
Laboratory Name:	Ecology and Environment, Inc. (EANDE)
• • • • • • • • • • • • • • • • • • •	
INTRODUCTION:	
The laboratory's porti	ion of this Case consisted of 10 samples collected on 23 April 1996.
The laboratory reporte	ed No problem(s) with the receipt of these samples.
The laboratory reporte media samples.	ed No problems with the analyses of polychlorinated biphenyls in air
have been assessed, by	amented on the criteria specified under each fraction heading. All criteria out no discussion is given where the evaluator has determined that criteria formed or require no comment. Details relevant to these comments are g forms.

Evaluation by Fraction

Pesticides/PCBs

Y Holding Times	Y Calibration Linearity
Y Instrument Performance	Y Blank
DDT RT/12 Minutes?	Y Surrogate Recovery
Y Retention Time Window	Y Spike Recovery
Y Analytical Sequence	Y Compound ID (HSL,TIC)
DDT/Endrin Degradation	Y Standards
Y RT Check for DBC	Y Chromatography

Comments:

1. Refer to Data Assessment Narrative

TOTAL REVIEW

DATA ASSESSMENT NARRATIVE

EANDE Project #: <u>9600.789</u> START RFP #s: <u>1316</u>

SAMPLES: 10 Filter + Solid Sorbent Samples

LAB: <u>Ecology and Environment, Inc.</u> Lab ID: <u>EANDE</u>

SITE: Cornell Dubilier Electronics

Analysis: Target Compound List (TCL) - Polychlorinated Biphenyls (PCBs)

DATA ASSESSMENT:

The S.O.W. Document # OLM01.0 (Rev. 12/90) for evaluating organic data have been applied.

All data are valid and acceptable except those analytes which have been qualified with a "J" (estimated), "U" (non-detects), "R" (unusable), or "JN" (presumptive evidence for the presence of the material at an estimated value). All action is detailed on the attached sheets.

Two facts should be noted by all data users. First, the "R" flag means that the associated data is unusable. In other words, due to significant QC problems, the analysis is invalid and provides no information on whether the compound is present or not. "R" values should not appear on data tables because they cannot be relied upon, even as a last resort. The second fact to keep in mind is that no compound concentration, even if it has passed all QC tests, is guaranteed to be accurate. Strict QC serves to increase confidence in data, but any value potentially contains error.

Analytical data qualified as "JN" or "R" may not be used to demonstrate compliance with Toxicity Characteristic or Land Ban Regulations.

Reviewer's Signature:	Marian Ports	Date: <u>05</u>	/ <u>17</u> /19 <u>96</u>
Verified By: _		Date:	//19

A.2.2 Data Assessment (continued):

On 23 April 1996, the Region II Superfund Technical Assessment and Response Team (START) personnel collected four (4) investigative air tube (13-mm glass fiber filter plus Florisil solid sorbent) grab samples from the Cornell Dubilier Electronics site, South Plainfield, Middlesex County, New Jersey. Sample collection was performed at a calibrated flow rate of 0.1 liters per minute (L/min) for a period of 300 minutes providing a sample calculated air volume of 30 L. Of the four investigative samples, sample STN4-PCB was collected upwind (background). Within twenty-four hours of collection, investigative samples and QC samples (media blanks [3], blind spikes [3], analytical spikes [3], and desorption efficiency media blanks [15]) were shipped by Federal Express courier to Ecology and Environment, Inc. (EANDE), Analytical Services Center, Lancaster, New York. On 24 April 1996, samples were received at the laboratory. A representative of the laboratory verified that samples arrived intact, in a sealed shipping container, and with proper documentation. Samples were analyzed by the laboratory for Target Compound List (TCL) polychlorinated biphenyl (PCB) organic compounds in air (TO-10 PCB in Air) following procedures specified in NIOSH method number 5503 from the NIOSH Manual of Analytical Methods (NMAM), Fourth Edition, 15 August 1994.

Client identification (ID) and laboratory ID numbers are as follows:

Client ID No.	EANDE Sample ID No.	<u>Matrix</u>
STN1-PCB	43068.01	Air Filter + Florisil Sorbent
STN2-PCB	43069.01	Air Filter + Florisil Sorbent
STN3-PCB	43070.01	Air Filter + Florisil Sorbent
STN4-PCB	43071.01	Air Filter + Florisil Sorbent
LB-PCB-A	43065.01	Air Filter + Florisil Sorbent
LB-PCB-B	43066.01	Air Filter + Florisil Sorbent
LB-PCB-C	43067.01	Air Filter + Florisil Sorbent
Blind-PCB-A	43062.01	Air Filter + Florisil Sorbent
Blind-PCB-B	43063.01	Air Filter + Florisil Sorbent
Blind-PCB-C	43064.01	Air Filter + Florisil Sorbent

1. HOLDING TIMES:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. Those analytes detected in the samples whose holding time has been exceeded will be qualified as estimated, "J". The non-detects (sample quantitation limits) will be flagged as estimated, "J", or unusable, "R", if the holding times are grossly exceeded.

The following analytes in the samples shown were qualified because of holding time:

PCBs - Holding time requirements, as specified in NIOSH Method No. 5503 for polychlorobiphenyls (PCBs), were met by the laboratory. Reported sample stability for the solid sorbent Florisil tubes is 2 months. The sample stability is unknown for the 13-mm glass fiber filter cassette. However, air filter samples were analyzed within twenty-four hours after the validated time of sample receipt (VTSR) at the laboratory.

(2) BLANK CONTAMINATION:

Quality Assurance (QA) blanks, i.e., method, trip, field, rinse and water blanks are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field blanks measure cross-contamination of samples during field operations. If the concentration of the analyte is less than 5 times the blank contaminant level (10 times for common contaminants), the analytes are qualified as non-detects, "U". The following in the samples shown were qualified with "U" for these reasons:

A) Method Blank Contamination

<u>PCBs</u> - The following compounds were qualified as non-detected "U" in the associated samples due to method (lot) blank contamination:

Compound

Associated Samples

PCB compounds were not detected by the laboratory in the associated lot blank samples (Florisil Tube SKC Lot No. 377; Filter SKC Lot No. 9494). Therefore, data were not qualified based on method blank contamination.

B) Field or Rinse Blank Contamination

<u>PCBs</u> - The following compounds were qualified as non-detected "U" in the associated samples due to field blank contamination:

Compound

Associated Samples

Field blank samples were not collected for PCB analyses (2-10 field blanks are required by the method per set). Data were therefore not qualified due to field blank contamination. Additionally, the PCB investigative sample data is non-detected "U".

(5) CALIBRATION:

B. PERCENT RELATIVE STANDARD DEVIATION (%RSD) AND PERCENT DIFFERENCE (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the continuing calibration check to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Percent RSD must be < 20% and %D must be < 20%. A value outside of these QC limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects are flagged "UJ" (if %D or RSD > 40%). If there is a gross deviation of %RSD and %D, the non-detects may be rejected ("R").

Initial Calibration

<u>PCB</u> - Positive values of the following compounds were qualified as estimated "J" in the associated samples because the Initial Calibration %RSD is between 20-90% when the mean RRF is > 0.05):

Compound

Associated Sample(s)

Initial calibration %RSD and mean RRF values did not exceed specified QC criteria for primary GC column RTX-35 and confirmation GC column RTX-5. Data were therefore not qualified due to Initial Calibration QC criteria.

Continuing Calibration

<u>PCB</u> - The following compounds were qualified as estimated "J" because the Continuing Calibration %D is between 20-90% when the 0.4 ug/mL RRF is > 0.05:

Compound

Associated Sample(s)

Continuing calibration %D and 0.4 ug/mL RRF values did not exceed specified QC criteria for primary GC column RTX-35 and confirmation GC column RTX-5. Data were therefore not qualified due to Continuing Calibration QC criteria.

(5) CALIBRATION (continued):

Continuing Calibration

<u>PCB</u> - The following compounds were qualified as estimated "J" because the Continuing Calibration %D for the Aroclor-1254 standard is between 15-90%:

Compound

Associated Sample(s)

Aroclor-1254

Due to professional judgement associated non-detected "U" sample data were not qualified as estimated "J" even though associated continuing calibration Aroclor-1254 standards (runs 17, 28, and 35) exceeded (16%, 17%, and 24%, respectively) QC criteria (≤ 15%). The laboratory indicated that the analytical instrument experienced an increase in response during the analyses due to a possible matrix effect. However, the change in instrument sensitivity did not effect the quantitation limits (≤ 0.10 ug/sample) of the associated non-detected "U" sample data (STN1-PCB, STN2-PCB, STN3-PCB, STN4-PCB, LB-PCB-A, -B, -C, and Blind-PCB-C).

(6) SURROGATES/SYSTEM MONITORING COMPOUNDS (SMC):

All samples are spiked with surrogate/SMC compounds prior to sample preparation to evaluate overall laboratory performance and efficiency of the analytical technique. If the measured surrogate/SMC concentrations were outside contract specifications, qualifications were applied to the samples and analytes as shown below. The following analytes for the samples shown were qualified because of surrogate/SMC recovery:

<u>PCBs</u> - Due to professional judgement, the following PCB compounds were either qualified as estimated "J" or rejected "R" in the associated sample data because recoveries of Dibutylchlorendate (DBC) are outside QC limits (20-150%):

Surrogate Recovery (%R) Qualifier Associated Sample(s) Number of Compounds

DBC surrogate recoveries are within QC limits (20-150%), therefore sample data were not qualified based on surrogate recovery QC criteria.

Note: The laboratory indicated in the case narrative that pesticide spiking solution was accidentally added to all samples instead of PCB surrogate solution. Additional qualification of data was not required because the pesticide compounds do not interfere with the PCB pattern.

(9) MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices. The laboratory must perform three quality control (QC) blind spike analyses and three analytical spike analyses in order to ensure the QC of the calibration and desorption efficiency (DE) graphs generated during the initial calibration sequence. The percent recovery (%R) must fall within laboratory-specified QC criteria.

<u>PCBs</u> - The following sample data were either qualified as estimated "J" or rejected "R" due to exceeding duplicate spike recovery QC criteria:

Original Sample	Front Spike %R	Back Spike %R	<u>Oualifier</u>	Compound(s)
43059.01	93.0%	93.5%	1	
43060.01	92.0%	92.5%	1	
43061.01	94.5%	87.0%	1	

The PCB-1242 percent spike recoveries (%R) of the front and back sections of the air tubes are within EANDE target QC limits (80-120%). PCB sample data were not qualified based on duplicate spike recoveries.

(10) Compound Identification

<u>PCBs</u> - The following detected compounds were qualified due to a percent difference (%D) between the primary and confirmation columns > 25%:

Compound

%D

Oualifier

Sample(s)

Sample data is non-detected "U", therefore data were not qualified based on this QC criteria.

- PCBs The laboratory indicated in the Case Narrative that the accuracy of the "analyses depends upon the representative nature of the sample and the reliability of collection procedures as well as the accuracy of the laboratory analysis of the sample as submitted". START personnel indicated that no problems were encountered during collection of investigative samples. START personnel collected 30 L per investigative sample at a flow rate of 0.1 L/min. This is within the method-specified collection of between 1 L to 50 L of air at a flow rate of 0.05 to 0.2 L/min.
- <u>PCBs</u> NIOSH Method No. 5503 provides gas chromatographic conditions for the detection of ug/mL levels of certain PCB compounds. The sensitivity of the method usually depends on the level of interferences rather than on instrumental limitations.

OTHER ANALYTES WORK TABLE

Project: Cornell Dubilier Electronics

START PM: PM NAME (Unless Otherwise Indicated)

Sampling Date: 23 April 1996

SAMPLE #/CONCENTRATION (µg/m³)

<u>r</u>				·		(mg/ /
Polychlorinated Biphenyls	Method Detection Limit	Air 43068.01 STN1-PCB	Air 43069.01 STN2-PCB	Air 43070.01 STN3-PCB	Air 43071.01 STN4-PCB	
Dilution Factor		1	1	1	1	·
Aroclor-1016	3.3	U	U	U	Ü	
Aroclor-1221	3.3	U	U	U	U	
Aroclor-1232	3.3	U	U	U	U	
Aroclor-1242	3.3	U	U	U	U	
Aroclor-1248	3.3	U	U	U	U	
Aroclor-1254	3.3	U	U	U	U	
Aroclor-1260	3.3	U	U	U	U	
		1				

	Method	Air	Air	Air	Air	Air
Polychlorinated Biphenyls	Detection	43065.01	43066.01	43067.01	43062.01	43063.01
	Limit	LB-PCB-A	LB-PCB-B	LB-PCB-C	Blind-PCB-A	Blind-PCB-B
Dilution Factor		1	1	1	1	1
Aroclor-1016	0.1 μg/tube	U	U	U .	U	U
Aroclor-1221	0.1 μg/tube	U	U	U	U	U
Aroclor-1232	0.1 μg/tube	U	Ŭ	U	U	U
Aroclor-1242	0.1 μg/tube	U	U	U	U	U
Aroclor-1248	0.1 μg/tube	U	U	U	U	U
Aroclor-1254	0.1 μg/tube	U	U ·	U	U	U
Aroclor-1260	0.1 μg/tube	U	'U	U	U	Ū

Polychlorinated Biphenyls	Method	Air					
i orycmormated bipnenyis	Detection	43064.01					
	Limit	Blind-PCB-C	*			,	
Percent Solids		1					
Dilution Factor				Ī	*		
Aroclor-1016	0.1 μg/tube	U					
Aroclor-1221	0.1 μg/tube	U		٠,			
Aroclor-1232	0.1 μg/tube	U			1		
Aroclor-1242	0.1 μg/tube	U					
Aroclor-1248	0.1 μg/tube	U					
Aroclor-1254	0.1 μg/tube	U					
Aroclor-1260	0.1 μg/tube	U					<u> </u>

 $^{0.1 \}mu g/\text{tube} \times 1000 \text{ L/m}^3 \div 30 \text{ L (air volume sampled)} = 3.3 \mu g/m^3$

U - non-detected compound

B - detected in the corresponding method blank

J - estimated value

J - between the instrument detection limit (IDL) and the method detection limit (MDL)

JN - presumptive evidence of a compound

at an estimated value.

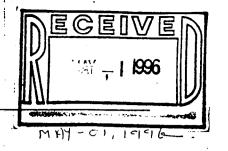
R - rejected compound



ecology and environment, inc.

International Specialists in the Environment

ANALYTICAL SERVICES CENTER 4493 Walden Avenue Lancaster, New York 14086 Tel. (716) 685-8080, Fax: (716) 685-0852



April 30, 1996

Ms. Smita Sumbaly
Roy F. Weston
1090 King Georges Post Road
Suite 201
Edison, New Jersey 08837

RE: 9600.789

Dear Ms. Sumbaly:

Attached is the laboratory report of the analyses conducted on samples received at the Analytical Services Center on April 24, 1996. Analyses were performed according to procedures set forth in NIOSH 5503 and 7300.

The chain of custody form provided herein is integral to this report and must be included with the analytical results forms upon transferral to another data user.

The accuracy of all analyses depends upon the representative nature of the sample and the reliability of collection procedures as well as the accuracy of the laboratory analysis of the sample as submitted. Ecology and Environment, Inc.'s activity and representations with respect to these samples are limited solely to the laboratory analysis of the samples presented to us.

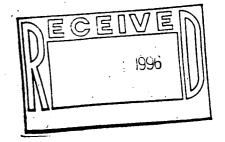
All samples on which this report is based will be retained by E & E for a period of 30 days from the date of this report, unless otherwise instructed by the client. If additional storage of samples is requested by the client, a storage fee of \$1.00 per sample container per month will be charged for each sample, with such charges accruing until destruction of the samples is authorized by the client.

CASE NARRATIVE

Desorption efficiency raw data is located on pages 8-13 of this data package.

3

Roy F. Weston 9600.789 Page 2 of 3



METALS

Due to software limitations, E & E identification codes have been used throughout this report. Full client ID's can be found in the comment section on form 1.

The following calculation was used for the determination of arsenic and lead in air samples:

The spike recoveries for samples MCEF-SA and MCEF-SB were calculated using the associated lot blanks as the original sample results (MCEF-LA and MCEF-LB respectively).

Lead was detected in the preparation blank at 0.256 ug/filter, just above the IDL of 0.21 ug/filter. Lead was also detected in all the samples. It is not possible to redigest and reanalyze filters.

PCB in Air

The following calculations were used for the determination of PCB's in air samples:

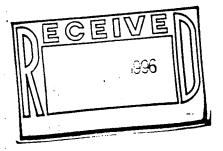
2. liters x (1 cubic meter / 1000 liters) = 1 cubic meter

Accidentally, pesticide spiking solution was added to all samples instead of PCB surrogate solution. The pesticide compounds do not interfere with the PCB pattern.

The extraction codes for the PCB in air analyses are as follows: 3200 = 1000 front end of tube, 3210 = 100 back end of tube, 3220 = 100 front end of spiked tube, 3290 = 100 back end of spiked tube.

The continuing AROCLOR-1254 standards (runs 17, 28, & 35) exceeded the 15% difference criteria. Percent differences were 16%, 17%, and 24% respectively.

Roy F. Weston 9600.789 Page 3 of 3



I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Gary Hahn - Manager

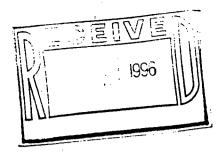
Analytical Services Center

April 30, 1996

Total number of pages in this data package is: 358

CHAIN OF CUSTODY RECORD

Environmental Protection agency - region II
Environmental Services Division
EDISON, NEW JERSEY 08817



Name o	f Unit and	Address Roy F. We 1090 Kind Svite Zoi	STON- STORT CCOUSCS POST Rol EDISON NJ 08837	(908	••	P# 1316		···
Sample Number	Number of Containers	Description of Samp	+ ALL SAMPLES BELOW FOR HOS SAMPLES ENTAIL BOTH				ber F.LT	ત્ર
A 7CB	3 _{sers}	3 LOT BLANKS . SKC LOT	NIOSH 5503 VOLUM 377 FLORISIL TUBES FI	me = Co	J = 5K(9494		
30 ND PC3	3 Sets	3 BLIND SPIKES.	NIOSH 5503 VOL	ume =	0	· · · · · · · · · · · · · · · · · · ·		••
ANOL-ICB (A,B,C)	l	4	ikes Niosh 5503					
DE-PCB	77.17		Efficiency Samples . N	1011 5	5u3	Volume = 0		
STAIL PCB			Per vol. 30 l					
STH 2- PCB	1 ser	STRTIUN 2 P	CB V2 = 301					
STN 3 .FCB	'>∈Γ	STATION 3 P	26 Jol = 30l			* * * * * * * * * * * * * * * * * * *		·
STN HIPCO	1 ScT	STRTION 4	RB vol:301	•	tet ,			
				:		•		
Person A	ssuming R	sponsibility for Sample:					Time 5.30	7/23/76
Sample Number	Reling	uished By:	Received By:	Time	Date	Reason for Change a	f Custody	
BIL	Head	LL-0						
	·) —	· · · · · · · · · · · · · · · · · · ·						
Sample Number	Relina	uished By:	Received By:	Time	Date.	Reason for Change o	f Custody	
	Fide	= *	26th 12 1bul	0930	4-),4 5 4	Analysis		
Sample Number	Reling	uished By:	Received By:	Time	Date	Reason for Change of	Custody	,
							-	
Sample Number	Relingu	ished By:	c Received By:	Time	Date	Reason for Change o	f Custody	

JOB NUMBER : 9600.789

Ecology and Environment, Inc. SAMPLE TRACKING REPORT

	CLIENT		1. A. C.		
- SAMPLE	SAMPLE	. `	DATE	DATE	DATE
NUMBER	ID		SAMPLED	EXTRACTED	ANALYZED
		•			
TO-10 PCB I	N'AIR -AIR	·			
43062.01	BLIND-PCB-A		04/23/96	04/25/96	04/26/96
43063.01	BLIND-PCB-B		04/23/96	04/25/96	04/26/96
43064.01	BLIND-PCB-C		04/23/96	04/25/96	04/26/96
43065.01	LB-PCB-A		04/23/96	04/25/96	04/26/96
43066.01	LB-PCB-B		04/23/96	04/25/96	04/26/96
	LB-PCB-C		04/23/96	04/25/96	04/26/96
43068.01	STN1-PCB	•	04/23/96	04/25/96	04/26/96
43069.01	STN2-PCB		04/23/96	04/25/96	04/26/96
43070.01	STN3-PCB		04/23/96	04/25/96	04/26/96
43071.01	STN4-PCB	9 1	04/23/96	04/25/96	04/26/96
	es.				

JOB NUMBER :9600.789

ELAP ID : 10486

Ecology and Environment, Inc. Analytical Services Center

CLIENT : ROY F. WESTON

TEST NAME : TO-10 PCB IN AIR

SAMPLE ID LAB : EE-96-43068

SAMPLE ID CLIENT: STN1-PCB

UNITS :	UG/M3
MATRIX:	AIR

	PARAMETER .		RESULTS	ġ ·	QNT. LIMIT
i	+			<u>.</u> .	
	PCB-1242		ND		3.3
	PCB-1254	•	ND		3.3
	PCB-1221	÷	ND	-	3.3
	PCB-1232	•	ND		3.3
	PCB-1248		ND		3.3
	PCB-1260		ND		3.3
	PCB-1016		ND		3.3

QUALIFIERS: C = COMMENT ND = NOT DETECTED

J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK

JOB NUMBER :9600.789

ELAP ID : 10486

Ecology and Environment, Inc. Analytical Services Center

CLIENT : ROY F. WESTON TEST NAME : TO-10 PCB IN AIR UNITS : UG/M SAMPLE ID LAB : EE-96-43069 MATRIX: AIR

UNITS : UG/M3

SAMPLE ID CLIENT: STN2-PCB

CD22M1: D1M2 FCD			•
PARAMETER	RESULTS	Q	QNT. LIMIT
		-	
PCB-1242	ND		3.3.
PCB-1254	ND		3.3
PCB-1221	ND'		3.3
PCB-1232	ND		3.3
PCB-1248	ND		3.3
PCB-1260	ND		3.3
PCB-1016	ND		3.3

QUALIFIERS: C = COMMENT ND = NOT DETECTED

J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK

JOB NUMBER :9600.789

ELAP ID : 10486

Ecology and Environment, Inc. Analytical Services Center

CLIENT : ROY F. WESTON TEST NAME : TO-10 PCB IN AIR

SAMPLE ID LAB : EE-96-43070

SAMPLE ID CLIENT: STN3-PCB

UNITS : UG/M3 MATRIX: AIR

DE ID CELENT.	211/2-50					
PARAMETER			RESULTS	Q	QNT.	LIMIT
				· <u>-</u>		
PCB-1242	N.	A	ND			3.3
PCB-1254	•		ND .			3.3
PCB-1221			ND			3.3
PCB-1232			ND			3.3
PCB-1248			ND			3.3
PCB-1260			ND			3.3
PCB-1016	•	5 4	ND	. Z.		3.3

QUALIFIERS: C = COMMENT ND = NOT DETECTED

J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK

JOB NUMBER :9600.789

ELAP ID : 10486

Ecology and Environment, Inc. Analytical Services Center

CLIENT

: ROY F. WESTON

TEST NAME : TO-10 PCB IN AIR UNITS : UG/M3
SAMPLE ID LAB : EE-96-43071 MATRIX: AIR

SAMPLE ID CLIENT: STN4-PCB

PARAMETER	RESULTS	Q	QNT.	LIMIT
		_		· `
PCB-1242	ND			3.3
PCB-1254	ND			3.3
PCB-1221	ND			3.3
PCB-1232	ND	÷	•	3.3
PCB-1248, i	ND			3.3
PCB-1260	ND			3.3
PCB-1016	ND		•	3.3

QUALIFIERS: C = COMMENT ND = NOT DETECTED

J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK

JOB NUMBER :9600.789

ELAP ID : 10486

Ecology and Environment, Inc. Analytical Services Center

CLIENT : ROY F. WESTON TEST NAME : TO-10 PCB IN AIR

SAMPLE ID LAB : EE-96-43065

UNITS : UG/TUBE

MATRIX: AIR

SAMPLE ID CLIENT: LB-PCB-A

_	OLIDATE DE LCE A			
	PARAMETER	RESULTS Q	QNT.	LIMIT
	- 			
	PCB-1242	ND		0.10.
	PCB-1254	ND		0.10
	PCB-1221 .	ND	•	0.10
	PCB-1232	ND		0.10
	PCB-1248	ND	• .	0.10
	PCB-1260	ND		0.10
	PCB-1016	ND		0.10

QUALIFIERS: C = COMMENT ND = NOT DETECTED

J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK N = ANALYTE WAS NOT CONFIRMED BY ALTERNATE PROCEDURE

JOB NUMBER :9600.789

ELAP ID : 10486

Ecology and Environment, Inc. Analytical Services Center

CLIENT : ROY F. WESTON

TEST NAME : TO-10 PCB IN AIR UNITS : UG/TUBE

SAMPLE ID LAB : EE-96-43066 MATRIX: AIR

SAMPLE ID CLIENT: LB-PCB-B

PARAMETER	RESULTS	Q	QNT.	LIMIT
		-		
PCB-1242	ND			0.10
PCB-1254	ND		÷.	0.10
PCB-1221	ND			0.10
PCB-1232	ND	1.		0.10
PCB-1248	ND			0.10
PCB-1260	ND	· · · · ·	1.	0.10
PCB-1016	ND	٠.		0.10

QUALIFIERS: C = COMMENT ND = NOT DETECTED

J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK

TEST CODE :APCB 1 .

JOB NUMBER :9600.789

ELAP ID : 10486

Ecology and Environment, Inc. Analytical Services Center

CLIENT

: ROY F. WESTON

TEST NAME : TO-10 PCB IN AIR

SAMPLE ID LAB : EE-96-43067

UNITS : UG/TUBE

SAMPLE ID CLIENT: LB-PCB-C

MATRIX: AIR

PARAMETER	RESULTS	Q	QNT. LIMIT
PCB-1242	ND		0.10
PCB-1254	ND	•	0.10
PCB-1221	ND		0.10
PCB-1232	ND		0.10
PCB-1248	ND		0.10
PCB-1260	ND		0.10
PCB-1016	ND		0.10

QUALIFIERS: C = COMMENT ND = NOT DETECTED

J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK

JOB NUMBER :9600.789

ELAP ID : 10486

Ecology and Environment, Inc. Analytical Services Center

CLIENT : ROY F. WESTON

TEST NAME : TO-10 PCB IN AIR UNITS : UG/TUBE SAMPLE ID LAB : EE-96-43062 MATRIX: AIR

			1
SAMPLE	ID	CLIENT:	BLIND-PCB-A

PARAMETER		RESULTS	Q	QNT.	LIMIT
			-		
PCB-1242	:	ND			0.10
PCB-1254		ND .	•	•	0.10
PCB-1221		ND			0.10
PCB-1232		ND			0.10
PCB-1248		ND		*	0.10
PCB-1260		ND		•	0.10
PCB-1016		ND		•	0.10

QUALIFIERS: C = COMMENT ND = NOT DETECTED

J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK

JOB NUMBER :9600.789

ELAP ID : 10486

Ecology and Environment, Inc. Analytical Services Center

CLIENT : ROY F. WESTON TEST NAME : TO-10 PCB IN AIR SAMPLE ID LAB : EE-96-43063

UNITS : UG/TUBE

MATRIX: AIR

SAMPLE ID CLIENT:	DI TIPO DED D	• • • •			
PARAMETER	BLIND-PCB-B	RESULTS	0	∩NTTT!	TTMTT
		KESULIS	Q	QNI.	· LIMIT
,			-		
PCB-1242		ND			0.10
PCB-1254	C .	ND			0.10
. PCB-1221		ND			0.10
PCB-1232		ND			0.10
PCB-1248	•	ND			0.10
PCB-1260		ND			0.10
PCB-1016		ND ·			0.10

JOB NUMBER :9600.789

ELAP ID : 10486

Ecology and Environment, Inc. Analytical Services Center

CLIENT

: ROY F. WESTON

TEST NAME : TO-10 PCB IN AIR SAMPLE ID LAB : EE-96-43064

SAMPLE ID CLIENT: BLIND-PCB-C

UNITS : UG/TUBE

MATRIX: AIR

PARAMETER		RESULTS	Q	QNT.	LIMIT
			-		
PCB-1242		ND			0.10
PCB-1254		ND ·			0.10
PCB-1221		ND			0.10
PCB-1232		ND		,	0.10
PCB-1248		ND			0.10
PCB-1260	• *	ND			0.10
PCB-1016	,	ND		•	0.10

QUALIFIERS: C = COMMENT ND = NOT DETECTED

J = ESTIMATED VALUE B = ALSO PRESENT IN BLANK

U.S. ENVIRONMENTAL PROTECTION AGENCY

MEMORANDUM			•		
DATE:	May 15, 1996				
TO:	Nick Magriples, OSC USEPA Region <u>II</u>		:	·.	
FROM:	Smita Sumbaly START Data Review Te	eam		· ·	
		•			
SUBJECT:	QA/QC Compliance Rev	view Summary			
examined and comparates were evaluated Data Spects Surro Matri Calibi	Completeness ra Matching Quality gate Spikes x Spikes/Duplicates ration	Blanks DFTPP and Chromatogra Holding Tin Compound 1	BFB Tuning aphy nes D (HSL, TIC	e following ge	eneral
may be reviewed by	orthers.	wing conclusion	is are attached	so that the re	:v1ew
Summary of	Results				
•	I <u>Metals</u>	II		IV	
Acceptable as Submit Acceptable with Con Unacceptable, Action Unacceptable	nments X				
Data Reviewed by:	Smita Sumbaly	·	Date	e: <u>05/15/96</u>	
Approved By:	Im Sour	·	Date	e: Augs	
Area Code/Phone No	(908) 225-6116			•	

NARRATIVE

CASE No. <u>1316</u>

SITE NAME:	Cornell Dubilier Electroniucs Site	
•	South Plainfield, Middlesex County, New Jersey.	· · · · · · · · · · · · · · · · · · ·
Laboratory Name:	Ecology and Environment, INC.	
INTRODUCTION:		
	tion of this Case consisted of 4 Air samples, two lot blanks, pike blanks samples collected on April 23, 1996.	two field
The laboratory report	ted No problem(s) with the receipt of these samples.	
The laboratory repor Cadmium and Silver)	ted No problems with the analyses of TAL metals (Lead,	Arsenic,

The evaluator has commented on the criteria specified under each fraction heading. All criteria have been assessed, but no discussion is given where the evaluator has determined that criteria were adequately performed or require no comment. Details relevant to these comments are given on the following forms.

- Y Data Summary/Tablulated Results
- Y Initial and Continuing Calibration
- Y Blanks
- Y ICP Interference Check
- Y Spike Sample Recovery
- NA Duplicates
- Y Detection Limits
- NA Standard Addition Results
- Y ICP Serial Dilutions
- Y Holding Times
- Y ICP Interelement Correction Factors
- Y ICP Linear Ranges
- Y Chain of Custody
- Y Raw Data
- Y Quantitation, Conversions, Dilutions, etc.

Comments:

1. Refer to Data Assessment Narrative.

Title: Evaluation of Inorganic Data for the

Contract laboratory Program

Appendix A.2: Data Assessment Narrative

Page 1 of 4

Date: Jan. 1992 Number: HW-2

AIR: 8

Revision: 11

CASE #:RFP # 1316 SITE: Cornell Dubilier Electronics Site

SDG#: MCEF-SA (43049) LAB: Ecology & Environment, Inc. MATRIX:

Contractor: WESTON-START REVIEWER: Smita Sumbaly

A.2.1 Validation Flags- The following flags have been applied in red by the data

validator and must be considered by the data user.

<u>J-</u> This flag indicates the result qualified as estimated.

Red-Line- A red-line drawn through a sample result indicates an unusable

value. The red-lined data are known to contain significant errors based on documented information and must not be used by the

data user.

Fully Usable Data— The results that do not carry "J" or "red-line" are fully usable.

<u>Contractual Qualifiers</u> The legend of contractual qualifiers applied by the laboratory on

Form I's is found on page B-20 of SOW ILM01.0.

A.2.2 The data assessment is given below and on the attached sheets.

On April 23, 1996, USEPA Region II sampling personnel collected four (04) Air samples, two lot blanks, two field blanks, and two lot spike blanks for inorganic (lead, cadmium, arsenic and silver) analyses from the Cornell Dubilier Electronics Site, South Plainfield, New Jersey. Within twenty-four hours of collection, samples were shipped via Federal Express courier to Ecology and Environment Laboratories, Inc, Lancaster, New York. The laboratory verified that samples were received intact and properly custody sealed.

Target Analyte List (TAL) inorganic elements were analyzed for lead, cadmium, arsenic and silver following NIOSH Method No. 7300 (Elements). Samples were collected using a 37 mm diameter, 8 micron mixed cellulose filter (MCEF). Sample collection was performed at a calibrated flow rate of 3 liters/minute (L/m) for a sample period of 300 minutes which provided each sample with a calculated sample volume of 900 liters of air.

Page 2 of 4

Title:

Evaluation of Inorganic Data for the

Contract laboratory Program

Appendix A.2: Data Assessment Narrative

Date: Jan. 1992 Number: HW-2

Revision: 11

A.2.2 (continuation)

Client identification (ID) and laboratory ID numbers are as follows:

TAL DATA

Client ID No.	Laboratory I	D No.	<u>Matrix</u>	Sample Location
		• .		,
MCEF-LA	43051		Air	Lot Blank
MCEF-LB	43052		Air	Lot Blank
MCEF-FA	43053	· ·	Air	Field Blank
MCEF-FB	43054		Air	Field Blank
STN1-PB	43055	••	Air	Station 1
STN2-PB	43056		∕Air	Station 2
STN3-PB	43057	•	Air	Station 3
STN4-PB	43058		Air	Station 4
MCEF-SA	43049		Air	Lot Spike Blank
MCEF-SB	43050		Air	Lot Spike Blank

Page 3 of 4

Title:

Evaluation of Inorganic Data for the

Contract laboratory Program

Appendix A.2: Data Assessment Narrative

Date: Jan. 1992 Number: HW-2

Revision: 11

A.2.2 (continuation)

The results presented in the data package are acceptable with the exception noted in the following data assessment narrative.

MATRIX SPIKE RECOVERY:-

The following TAL inorganic analytes were either qualified as estimated "J" or rejected "red-lined" in the associated samples due to spike recoveries (% R) outside of specified QC limits in the associated spike samples and because the sample result (SR) concentration < 4 X the spike added (SA) concentration:

ANALYTE	Percent Recovery		Associated Samples
	•		•
Silver	13.0/14.2 %	"J"	MCEF-LA, MCEF-LB, MCEF-FA, MCEF-FB, STN1-PB, STN2-PB, STN3-PB & STN4-PB

PREPARATION BLANK:-

The following positive TAL inorganic data < 10 X Prep. Blank (when the CRDL is > IDL) were rejected "red-lines" because the concentration of Prep. Blank value greater than the CRDL:

<u>ANALYTE</u>	CRDL VALUE	Prep.Blank VALUE	<u>Oualifier</u>	Associated Samples
Lead	3 ug/l	25.6 ug/l	"red-lined"	STN1-PB & STN3-PB

CALIBRATION: The laboratory performed initial calibration sequence and performed continuing calibration checks at a frequency of one at every ten samples per analytical run. The percent recovery of initial and continuing calibration verification check standard results are within QC limits (80-120 %).

Page 4 of 4

Title:

Evaluation of Inorganic Data for the Contract laboratory Program Appendix A.2: Data Assessment Narrative

Date: Jan. 1992 Number: HW-2

Revision: 11

A.2.2 (continuation)

A.2.3 Contract Problem/Non-Compliance:

MMB/ESAT Reviewer:			
•	Signature		Date:
Contractor Reviewer:	Smita Sumbaly		05/14/96
	Signature		Date:
Verified by:	-	<u>.</u>	

EPA SAMPLE NO.

Lab Name: ECOLOGY_AND_EN	VIRONMENT	Contract: _	•		43051	
Lab Code: EANDE_ Ca	ase No.: 96	00.789 SAS No.	:	SDG 1	No.: 43049	9
Matrix (soil/water): AIR	FILTER		Lab Sa	ample ID:	43051	
Level (low/med): LOW	,	•	Date F	Received:	04/24/96	
% Solids: 100 Concentration		/L or mg/kg dr	v weigh	nt): UG/F	ILTER	
.		1	1 1			
CAS No.	Analyte	Concentration	C Q	M		
7429-90-5 7440-36-0	Antimony			NR NR		
7440-38-2 7440-39-3 7440-41-7	Barium	0.037	<u> </u>	P NR NR	•	
7440-43-9 7440-70-2 7440-47-3 7440-48-4	Cadmium_ Calcium_ Chromium	0.0070	<u></u>	P NR NR NR NR		
7440-50-8 7439-89-6 7439-92-1 7439-95-4	Copper Iron Lead Magnesium	1.4		NR NR P NR		
7439-96-5 7439-97-6 7440-02-0 7440-09-7	Mercury_ Nickel_ Potassium			NR NR NR NR		,
7782-49-2 7440-22-4 7440-23-5 7440-28-0	Silver -	0.0094	B	NR P NR NR		
7440-62-2 7440-66-6	Vanadium_ Zinc_ Cyanide_			NR NR NR NR		
Color Before:	Clarit	y Before:	_ 	!! Textur	re:	
Color After: CL		y After: \C		Artifa	icts:	
Comments:CLIENT_SAME	PLE_ID:MC	EF-LA				
1	FC	DRM I - IN		,	ILM03	·.

EPA	SAMPLE	NO
	~~~~~~	*10

					43053
o Name: ECOI	OGY_AND_ENV	IRONMENT	Contract: _		
o Code: EANI	E_ Ca.	se No.: 960	00.789 SAS No.		SDG No.: 43049
rix (soil/w	water): AIR	FILTER		Lab Sampl	le ID: 43053
vel (low/med	l): LOW	•		· -	eived: 04/24/96
		•		Date Ree	51VCa: 01/24/50
Solids:	100.	0			•
Co	ncentration	Units (ug/	/L or mg/kg dry	weight):	: UG/FILTER
		_			
	CAS No.	Analyte	Concentration	C Q	M
	7429-90-5	Aluminum		<u> </u>	NR /
•	7440-36-0	Antimony -			NR
	7440-38-2	Arsenic	0.037	<u> </u>	P
	7440-39-3 7440-41-7	Barium			NR
	7440-41-7	Beryllium Cadmium	0.0070	ਜ਼	NR P
•	7440-70-2	Calcium	0.0070	<u> </u>	NR NR
	7440-47-3	Chromium	1		NR
,	7440-48-4	Cobalt			NR
	7440-50-8	Copper			NR
	7439-89-6	Iron			NR
	7439-92-1	Lead	0.61	_	P
	7439-95-4 7439-96-5	Magnesium Manganese		-	NR NR
	7439-97-6	Mercury		-	NR
	7440-02-0	Nickel -		-	NR
	7440-09-7	Potassium		-	NR
	7782-49-2	Selenium_			NR
	7440-22-4	Silver	0.0060	Ū	P_
	7440-23-5 7440-28-0	Sodium Thallium		_ [ ]	NR
	7440-28-0	Vanadium		-	NR NR
	7440-66-6	Zinc		<u>-</u>	NR NR
		Cyanide			NR
or Before:		Clarit	y Before:		Texture:
or After:	CL	Clarit	y After: C	· .	Artifacts:
			)		
ments:	CI TENE CANCA	n in	10 03		
	CLIENT_SAMPI	TE_ID:WCF	F-FA		·

FORM I - IN

	CAMPIE	370
EPA	SAMPLE	NO

lab Name: ECOI	LOGY AND ENV	IRONMENT .	Contract:		43054
			— .00.789 SAS No	:	SDG No.: 43049
Matrix (soil/w		•			le ID: 43054
evel (low/med	i): LOW_			Date Rec	eived: 04/24/96
Solids:	100.	0 .			
Co	ncentration	Units (ug	/L or mg/kg dry	y weight)	: UG/FILTER
					<del>   </del>   .
•	CAS No.	Analyte	Concentration	C Q	M
	7429-90-5	Aluminum	****		NR
ı	7440-36-0	Antimony_			NR
	7440-38-2	Arsenic	0.049	B	P_
•	7440-39-3 7440-41-7	Barium	-		NR .
	7440-41-7	Beryllium Cadmium	0.0070	<del></del>	NR P
	7440-70-2	Calcium	0.0070		NR
	7440-47-3	Chromium		-	NR NR
	7440-48-4	Cobalt		- -	NR
	7440-50-8	Copper		-	NR
	7439-89-6	Iron			NR
•	7439-92-1	Lead	0.24		P
	7439-95-4	Magnesium			NR
	7439-96-5	Manganese			NR
	7439-97-6	Mercury	٠.		NR
	7440-02-0	Nickel			NR
	7440-09-7	Potassium			NR
	7782-49-2	Selenium_			NR
	7440-22-4	Silver	0.0060	Ū	P
	7440-23-5	Sodium			NR
	7440-28-0	Thallium	<del></del>	_	NR
•	7440-62-2 7440-66-6	Vanadium_		÷	NR
	7440-00-0	Zinc  Cyanide		_	NR NR
		Cyamide		_	NR
	I <del></del>	<del></del>			· .
olor Before:		Clarit	y Before:		Texture:
olor After:	CL	Clarit	y After: C		Artifacts:
omments:		•			
	CLIENT_SAMPI	LE ID: MCF	F-FB		
	·				
	· · · · · · · · · · · · · · · · · · ·				
-			· · · · · · · · · · · · · · · · · · ·		

FORM I - IN

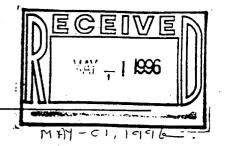


## ecology and environment, inc.

International Specialists in the Environment

ANALYTICAL SERVICES CENTER 4493 Walden Avenue

Lancaster, New York 14086 Tel. (716) 685-8080, Fax: (716) 685-0852



April 30, 1996

Ms. Smita Sumbaly Roy F. Weston 1090 King Georges Post Road Suite 201 Edison, New Jersey 08837

RE: 9600.789

Dear Ms. Sumbaly:

Attached is the laboratory report of the analyses conducted on samples received at the Analytical Services Center on April 24, 1996. Analyses were performed according to procedures set forth in NIOSH 5503 and 7300.

The chain of custody form provided herein is integral to this report and must be included with the analytical results forms upon transferral to another data user.

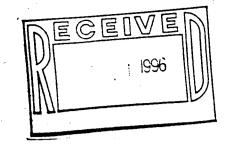
The accuracy of all analyses depends upon the representative nature of the sample and the reliability of collection procedures as well as the accuracy of the laboratory analysis of the sample as submitted. Ecology and Environment, Inc.'s activity and representations with respect to these samples are limited solely to the laboratory analysis of the samples presented to us.

All samples on which this report is based will be retained by E & E for a period of 30 days from the date of this report, unless otherwise instructed by the client. If additional storage of samples is requested by the client, a storage fee of \$1.00 per sample container per month will be charged for each sample, with such charges accruing until destruction of the samples is authorized by the client.

### CASE NARRATIVE

Desorption efficiency raw data is located on pages 8-13 of this data package.

Roy F. Weston 9600.789 Page 2 of 3



#### METALS

Due to software limitations, E & E identification codes have been used throughout this report. Full client ID's can be found in the comment section on form 1.

The following calculation was used for the determination of arsenic and lead in air samples:

The spike recoveries for samples MCEF-SA and MCEF-SB were calculated using the associated lot blanks as the original sample results (MCEF-LA and MCEF-LB respectively).

Lead was detected in the preparation blank at 0.256 ug/filter, just above the IDL of 0.21 ug/filter. Lead was also detected in all the samples. It is not possible to redigest and reanalyze filters.

### PCB in Air

The following calculations were used for the determination of PCB's in air samples:

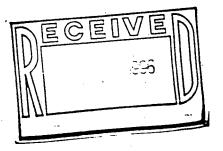
2. liters x (1 cubic meter / 1000 liters) = 1 cubic meter

Accidentally, pesticide spiking solution was added to all samples instead of PCB surrogate solution. The pesticide compounds do not interfere with the PCB pattern.

The extraction codes for the PCB in air analyses are as follows: 3200 = front end of tube, 3210 = back end of tube, 3220 = front end of spiked tube, 3290 = back end of spiked tube.

The continuing AROCLOR-1254 standards (runs 17, 28, & 35) exceeded the 15% difference criteria. Percent differences were 16%, 17%, and 24% respectively.

Roy F. Weston 9600.789 Page 3 of 3



I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or the Manager's designee, as verified by the following signature.

Gary Hahn - Manager

Analytical Services Center

April 30, 1996

Total number of pages in this data package is: 358

## OTHER ANALYTES WORK TABLE

Project: Cornell Dubilier Electronics Site

START PM: Joseph Price

Sampling Date: April 23, 1996 LOT BLAMS / FIRD BLAMS, REPORTED IN Mg/ filter CD SAMPLE #/CONCENTRATION (ug/M3)

	Method	Air Filter		Air Filter		Air Filter		Air Filter				
Total Metals	Detection	MCEF-LA		MCEF-LB		MCEF-FA		MCEF-FB				
	Limit	43051		43052		43053	,	43054				
Percent Solids	7	100		100		100		100				
Dilution Factor		1		1		. 1		1				
			woulde,		2260A)						isinteni.edig	ta kerrildikki
Arsenic	2 ug/filter	υ		U		Ŭ		0.044	В			
Cadmium	1 ug/filter	U		U		U		U				
Lead	0.6 ug/filter	1.4		0.78		0.61		0.24		·		
Silver	2ug/filter	0.0094	J	U	J.	U	. J	U	J			
<del></del>				•								

SAMPLES,	REPORTED IN	Mg/m3	© 8-16-96
			i i

	Method	Air Filter		Air Filter	Air Filter		Air Filter			
Total Metals	Detection	STN1-PB		STN2-PB	STN3-PB		STN4-PB			,
	Limit	43055		43056	43057		43058			
Percent Solids	1	100		100	100	4	100			
Dilution Factor		1		1	1.	:	1			
Arsenic	2 ug/M3	υ		Ŭ	U		U			
Cadmium	1 ug/M3	0.022	В	0.012 B	U	- · · · ·	0.017	В		
Lead	0.6 ug/M3	R		3.5	R		7.2			
Silver	2 ug/M3	U	J	0.020 BJ	U	J	U	J	·	

## Inorganic Qualifiers

U - non-detected compound

J - estimated value

B - between the instrument detection limit (IDL) and the method detection limit (MDL)

R - rejected compound

### U.S. EPA - CLP

			1		E	PA SAMPLE NO.
		INORGANIC A	ANALYSES DATA S	SHEET	-	
Lab Name: ECOI	LOGY AND ENV.	TKONWENT	Contract:			43055
Lab Code: EANI			 : 0.789 SAS NO.	<u> </u>	SI	OG No.: 43049_
Matrix (soil/v	-	FILTER		Lab S	ample 1	D: 43055
Level (low/med	HOW_	· · · · · · · · · · · · · · · · · · ·		Date	Roccive	ed: 04/24/96
% Solids:	100.	0		•	· · · · ·	
, Co	oncentration	Units (ug,	/L or mg/kg dry	y weig	ht): UC	S/M3
	CAS No.	Analyre	Concentration	c c	M	
	,		CONCENCTACION			,
	7429-90-5	Aluminum_	,		NK	
	7440-36-0 7440-38-2	Antimony_ Arsenic	0.033	ס	NR P	
	7440-39-3	Barium			$$ $ _{\overline{NR}}$	
	7440-41-7	Beryllium		- -	NR	,
· V	7440-43-9	Cadmium	0.022	3 <u> </u>	P	. •
	7440-70-2	Calcium_		-	NR	
	7440-47-3	Chromium_ Cobalt		<b></b>	NR NR	
	7440-48-4	Copper		-	NR NR	
	7439-89-6	Iron	<del></del>	- -	NR	
	7439-92-1	Lead	U.86		P	
	7439-95-4	Magnesium		-	NR	
	7139 96 5	Manganese			NR	
	7439-97-6	Mercury			NR.	
	7440-02-0	Nickel		_	NR	
	7440-09-7	Potassium		- -	NR	
	7782-49-2	Selenium_	0.0050	ט	NR P	,
	7440-22-4	Silver	0.0050	101-2	NR	,
•	7440-23-5 7440-28-0	Sodium  Thallium		-	$ _{NR}^{NR}$	
	7440-62-2	Vanadium_		-	- NR	
e de la companya de	7440-66-6	Zinc			NR	
; •		Cyanide		-	NR	
		ı • —		1-1		

Color Before:	cl	arity Before:	Texture:
Color After:	cr <u> </u>	arity After: C	Artifacts:
Comments:	_CLIENT_SAMPLE_ID:_	_stn1-PB	,

FORM I - IN

## U.S. EPA - CLP

# INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

b Name: ECOL	OGY_AND_ENV	IRONMENT_	Contract:			43056
b Code: EAND	E_ Ca:	== se No.: 950	 :.0.789 SAS NO.	•	·	SDG No.: 43049
crix (soil/wa	ater): AIR 1	FILTER		Lab :	Sample	: ID: 43056
vel (low/med	): 1.OW	<del>-</del> -		Date	Recei	ved: 04/24/96
Solids:	100.0	0 .				•
Co	ncentration	Units (ug,	/L or mg/kg dry	y weig	ght):	UG/M3
	CAS No.	Analyte	Concentration	C C	Q M	_ 
	7440-36-0 7440-38-2 7440-39-3 7440-43-9 7440-70-3 7440-48-4 7440-50-89-6 7439-92-4 7439-95-5 7439-95-6 7439-97-6 7439-97-6 7440-22-4 7440-23-0 7440-28-0	Aluminum Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium Zinc Cyanide	0.033	B	N P P N N N N N N N N N N N N N N N N N	R R R R R R
or Before:		Clarit	y Bcfore:		· T	exture:
or After:	СТ		y After: C			rtifacts:
nments:			N2 - PB		:	

FORM I - IN

## U.S. EPA - CLP

I INORGANIC ANALYSES DATA SHEET

EPA SAMPLE NO.

ab Name: ECO	LOGY_AND_ENV;	IRONMENT	Contract:		43057
		<del></del>	- 00.789 SAS No.	1	SDG No.: 43049
Matrix (coil/	water): AIR ]	FILTER		Lab samp	le ID: 43057
evel (low/me	d): LOW_	_ `		Date Rece	eived: 04/24/96
Solids:	100.0	<b>o</b> .		•	••
C	oncentration	Units (ug,	/L or mg/kg dry	y weight)	: TIG/M3
	CAS No.	Analyte	Concentration	c c	M
	7440 38 2 7440-39-3 7440-41-7 7440-43-9 7440-47-3 7440-48-4 7440-50-8 7439-89-6 7439-92-1 7439-95-4	Aluminum Antimony Arsenic Barium Beryllium Cadmium Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium	0.033 0.0060 		NR NR P NR NR NR NR NR NR NR NR NR NR NR NR NR
olor Ecfore:	7440-66-6	Zinc Cyanide Clarit	y Before:	•	NR NR Texture:
olor After:  omments:	CL _CLIENT_SAMPI	,	Y After: C	:	Artifacts:

FORM I - IN

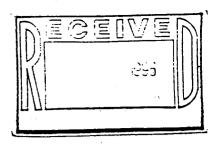
EPA	SAMPLE	NO
-----	--------	----

	-	INORGANIC A	ANALYSES DATA 8	SH-MHITT	
ab Name: ECOL	OGY AND ENV	RONMENT	Contract:		43058
•			00.789 SAS No.:		SDG No.: 4304
itrix (soil/w	<del>-</del>				ple ID: 43058
evel (low/med		·			ceived: 04/24/96
•		<del>-</del>	•	Date 110	001104. 01/21/00
Solids:	100.0				· · · · · · · · · · · · · · · · · · ·
· Co	ncentration	Units (ug.	/L or mg/kg dry	y weight	): UG/M3
	CAS No.	Analyte	Concentration	c Q	М
	7440-36-0 7440-38-2 7440-39-3 7440-41-7 7440-43-9 7440-47-3 7440-48-4 7440-50-8 7439-89-6 7439-95-4 7439-95-4 7439-95-5 7439-97-6 7410-02-0 7440-23-5 7440-28-0	Calcium Chromium Cobalt Copper Iron Lead Magnesium Manganese Mercury Nickel Potassium Selenium Silver Sodium Thallium Vanadium Zinc Cyanide	7.2	B	NR NR P NR NR NR NR NR NR NR NR NR NR NR NR NR
lor Before:			ty Belore:		Texture:
lor After:	CT	Clari	ty After: C		Artifacts:
emments:	CLIENT_SAMP	LE_ID:ST	N4-PB		

FORM 1 - IN

## CHAIN OF CUSTODY RECORD

Environmental Protection agency - Region II
Environmental Services Division
EDISON, NEW JERSEY 08817



Name of	Unit and	Address Roy F. Wcs 1090 KING Suite Zoi	TON - STORT GEOTYCS POST Rd EDISON NJ 08837	(908)		RFP# 1316	
Sample Number	Number of Centainers	Description of Samp	les	ÀLL	SAMPLES !	below for propersis per Niosh 7", cooming, silver, presence	300 .
mceF.SA	1	NIOSH 7360- LOT	SPIKE A VOLUME = (		5 <b>×</b> C		
MCEF. SB	,	NIOSH 7300 LOT	SPIKE B		GILIAN	F.LTCR LOT. 9221229	•
ncef. LA	1.	N.OSH 7300- LOT	BLANK A			•	
MCEF. LB	ì	NIOSH 7300-WT	BLONK B				
ACEF-FA	,	HI02H 73 00 Fiel	& BLACK A.				
MCEF.FB		NIOSH 7360 Fiel	LaBLOAK B valume =	O Litis	<b>ر</b>		
STM1-76		STATE IN 1 - MC	EF volume = 700 l				
		STATION 2 - MG	CEF VOLUME = 900 l				
STN 2.Fb	<b>'</b> ,	STETUJ 3 - M	CEF Volume = 900 Q				
57N 5.16 57N H -Pb	1	5767,63 H - M	ICEF volume = 900.	L	•		
214.1.10	,	3,3,7,0					
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	,						
Person A	Assuming R	espansibility for Sample:				5 3c	0010 4/23/46
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ALL	7						
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